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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,779	02/13/2002	Manoharprasad K. Rao	201-0633 FAM	9492
28549	7590	04/20/2004	EXAMINER	
KEVIN G. MIERZWA ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			TRAN, DALENA	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,779

Applicant(s)

RAO ET AL.

Examiner

Dalena Tran

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicant(s)

1. This office action is responsive to the amendment filed on 12/22/03. Claims 1,5-6, and 10 have been amended. Claims 1-20 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-16, and 18-19, are rejected under 35 U.S.C.103(a) as being unpatentable over Lemelson et al. (6,226,389) and obviousness.

As per claim 1, Lemelson et al. discloses a pre-crash sensing system for an automotive vehicle coupled to a coupled to a countermeasure system having at least a first countermeasure and a second countermeasure comprising: a decision zone, and a vision system generating generating an object size signal, vision sensor confirming the presence of the object within the decision zone (see column 2, lines 44-55; column 7, lines 30-49; and the abstract), a radar or lidar unit generating an object distance signal and object relative velocity signal from an object within decision zone (see column 6, lines 5-13; and column 11, lines 35-57), and a controller coupled to radar unit or lidar unit and vision system for activating either first countermeasure or the first and the second countermeasure in response to object distance, relative velocity and object size signals (see columns 2-3, lines 44-30). It is obvious that in column 7, lines 40-49, Lemelson et al. discloses "a CCD camera is used, the width can ascertained..... The relative

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velocities can also be easily calculated”, therefore, it is obvious that a decision zone has disclose in Lemelson et al. reference, and the scanning zone using a vision system.

As per claim 6, Lemelson et al. discloses a pre-crash sensing system for an automotive vehicle coupled to a coupled to a countermeasure system having at least a first countermeasure and a second countermeasure comprising: a first sensor for generating an object distance signal and relative velocity signal for an object present in a predefined decision zone (see column 6, lines 5-13; and column 11, lines 35-57), a second sensor generating an object size signal, second sensor confirming the presence of the object within the decision zone (see column 7, lines 30-49; and the abstract), and a controller coupled to first and second sensor for activating either first countermeasure or the first and the second countermeasure in response to object distance, relative velocity and object size signals (see column 6, lines 13-67). It is obvious that in column 7, lines 40-49, Lemelson et al. discloses “a CCD camera is used, the width can ascertained..... The relative velocities can also be easily calculated”, therefore, it is obvious that a decision zone has disclose in Lemelson et al. reference, and the scanning zone using a vision system.

As per claims 2-3, and 7-9, Lemelson et al. disclose object size (see column 2, lines 44-55). Lemelson et al. do not disclose object area and height. However, Lemelson et al. disclose cameras identify the shapes and sizes of objects such as rear and front profiles and their relative sizes or select dimensions. Therefore, it is obvious that object area and height also can be determined.

As per claim 5, Lemelson et al. disclose the decision zone has a size dependent on the relative velocity signal (see column 7, lines 30-49; and column 9, line 28 to column 10, line 26).

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Claim 10 is method claim corresponding to system claims 1 and 5 above. Therefore, it is rejected for the same rationales set forth as above.

As per claims 11-14, Lemelson et al. disclose determining object size and select dimensions, wherein activating the countermeasure system in response to the object size and select dimensions area (see columns 2-3, lines 44-30). Lemelson et al. do not disclose object cross sectional area and height. However, Lemelson et al. disclose cameras identify the shapes and sizes of objects such as rear and front profiles and their relative sizes or select dimensions. Therefore, it is obvious that object cross sectional area and height also can be determined.

As per claim 15, Lemelson et al. disclose detecting an object within the decision zone comprises detecting the object within the decision zone with a radar or lidar sensor system and confirming the presence with a vision system (see column 5, lines 36-64).

As per claim 16, Lemelson et al. disclose choosing either the first countermeasure or the first and the second countermeasure in response to object size (see columns 2-3, lines 44-30).

Claim 18 is method claim corresponding to system claim 5 above. Therefore, it is rejected for the same rationales set forth as above.

As per claim 19, Lemelson et al. disclose activating the countermeasure system in response to detecting an object within the decision zone (see column 5, lines 36-64).

6. Claim 4, is rejected under 35 U.S.C.103(a) as being unpatentable over Lemelson et al. (6,226,389) in view of Kosiak (5,835,007).

As per claim 4, Lemelson et al. do not disclose longitudinal speed. However, Kosiak discloses a vehicle speed sensor generating a speed signal corresponding to the longitudinal

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speed of the vehicle, wherein controller activates countermeasures in response to the longitudinal speed signal (see column 3, lines 38-65).

7. Claims 17, and 20, are rejected under 35 U.S.C.103(a) as being unpatentable over Lemelson et al. (6,226,389), in view of Farmer et al. (6,085,151).

As per claim 17, Lemelson et al., do not disclose activating the countermeasure system in response to the object size and vehicle orientation. However, Farmer et al. disclose activating the countermeasure system in response to object size comprises activating the countermeasure system in response to the object size and vehicle orientation (see the abstract; and column 13, lines 20-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Lemelson et al., by combining activating the countermeasure system in response to the object size and vehicle orientation to reduce the risk or harm to occupants by the airbag inflator while simultaneously reducing the restraint capacity of the airbag inflator, which places occupants at greater risk for injury when exposed to higher severity crashes.

As per claim 20, Lemelson et al., do not disclose different type of countermeasure. However, Farmer et al. disclose activating a first countermeasure comprising pre-arming airbags and pretensioning motorized belt pretensioners, or activating first and second countermeasure comprising adjusting the host vehicle suspension height in response to object size and orientation (see column 6, lines 13-36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Lemelson et al., by combining activating a first countermeasure comprising pre-arming airbags and pretensioning motorized belt pretensioners, or activating first and second countermeasure comprising adjusting the host

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vehicle suspension height in response to object size and orientation to provide sufficient and properly restraint for normally positioned occupants.

Remarks

8. Applicant's argument filed on 12/22/03 have been fully considered but they are not deemed to be persuasive. As a result of the amendment, a new ground of rejection as above. Shaw et al. (5,314,037) is not in this rejection because of the new added amendment for claims 1, 5-6, and 10. Lemelson et al., disclose a decision zone, and a vision system generating generating an object size signal, vision sensor confirming the presence of the object within the decision zone (see column 2, lines 44-55; column 7, lines 30-49; and the abstract), and the decision zone has a size dependent on the relative velocity signal (see column 7, lines 30-49; and column 9, line 28 to column 10, line 26), and the obvious as above in column 7, lines 40-49, Lemelson et al. discloses "a CCD camera is used, the width can ascertained..... The relative velocities can also be easily calculated", therefore, it is obvious that a decision zone has disclose in Lemelson et al. reference, and the scanning zone using a vision system.

Examiner maintains that all the references cited above meet the language of the claims invention.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

A shorten statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the

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THREE MONTHS shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 703-308-8223. The examiner can normally be reached on M-F (7:30 AM-5:30 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

/dt
April 15, 2004


TAN Q. NGUYEN
PRIMARY EXAMINER